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AUTHOR Dalrymple, Nancy J.; Angrist, Misha H.
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ABSTRACT

The study reports on a data-based work experience model for secondary students with autism. The objectives were to increase competency and independence, provide a variety of experiences to assess skills and preferences, and modify interfering behaviors. Five autistic students, aged 16-20, were sent to community work sites providing a variety of work experiences for job training and job exploration. To prepare for the community jobs, the students learned appropriate community behavior. Data were collected on the number of cues required to complete a job, focusing on physical cues, environmental cues, and verbal cues. Results of the community work site program showed that the students were successful at more than one job experience. The number of cues required to do the jobs decreased over time. Jobs that were repetitive rather than long-sequenced tasks were easier to teach and allowed the students to gain the greatest degree of independence with the least frustration. It is concluded that students with autism respond well to meaningful jobs in integrated settings and can successfully learn jobs at the job site. (JDD)

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Students with Autism Succeed in Community Job Settings

By

Nancy J. Dalrymple
and
Misha H. Angrist

Indiana Resource Center for Autism
Institute for the Study of Developmental Disabilities
Indiana University
Bloomington, Indiana 47408

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Running head: Community work exploration for students with autism

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

The purpose of this study was to increase independence in performing vocational behaviors and skills in community job sites of secondary school students exhibiting severe behavior associated with autism. The data from five students are reported in this discussion which analyzes community work experiences utilizing job coaches.

In 1983, the Office of Special Education and Rehabilitative Services (OSERS) established a national priority for transitioning individuals with handicaps from school to employment. As Bellamy (1985) pointed out, "OSERS underscored the concern of persons with disabilities, their families, and service providers that the entitlement to a public education does not automatically lead to either normal opportunities for employment and community integration or to needed adult services."

The human service professions are now faced with the need to develop long-term planning for employment. Services for the developmentally disabled must be delivered along a continuum that corresponds with the next phase in individuals' lives. This means that preparation for employment should not occur at age 22, after a young adult has left the school system. The alternative is to plan and train for vocational activities long before students' schooling has ended (Elder, 1985).

Previous job placement experiences suggest that many persons with mild, moderate, and severe mental disabilities, autism, behavior disorders or multiple handicaps may have problems with learning and performing a job. This is often accompanied by transportation problems, and also fears of losing social security payments (Wehman, Kregel, & Barcus, 1985). Parental concerns are an issue as well. In a recent study parents of high school students with severe disabilities emphasized training activities that lead to more interesting or difficult jobs rather than simply security. The parents paid special attention to criteria

that focus on establishing stable and meaningful work (McDonnell, Wilcox, Boles, & Bellamy, 1985). The implication is that some form of external assistance is needed to address these concerns.

Madeleine Will (1985) states, "I firmly believe that all youth with disabilities enrolled in our nation's schools are capable of moving from school to employment, with the provision of necessary support services tailored to the needs of those individuals. The transition from school to working life calls for a range of choices about career options, living arrangements, social life, and economic goals that often have lifelong consequences." To facilitate this, a supported work approach to competitive employment has evolved. This approach emphasizes structured assistance in job placement and job site training (Wehman, 1981).

Brown and his colleagues (1984) found that when persons with severe intellectual disabilites function in environments that contain large numbers of nonintellectually disabled persons, they do better, achieve more, and have a richer quality of life. A supported work paradigm upholds this objective by aiding developmentally disabled people in gaining easier access to the work environments traditionally dominated by their nonhandicapped peers. Fortunately there are programs now underway which are demonstrating how supported work through the use of an ongoing job coordinator can help this historically unemployed population gain entry into the labor force (Brickey and Campbell, 1981; Rusch and Mithaug, 1980; Wehman, Hill, Goodall, Cleveland, Brooke, and Pentecost, 1982).

Students with autism have benefited from previous research demonstrating the usefulness of behavior management techniques (DeMyer, Hingtgen, & Jackson, 1981; Lovaas, 1987; Lovaas, Koegel, Simmons, & Long, 1973). The usefulness of applying these techniques to vocational training in community settings is now being reported (Sitlington, Dalrymple, & DeWees, 1986; Smith and Coleman, 1984). Self- Management techniques (Agran & Martin, 1987) and successful job training programs (Juhrs, 1984; Shafer, 1987) are providing information regarding vocational training in community job sites for people demonstrating severe behaviors associated with autism.

The present study reports a data-based work experience model designed for secondary students with autism. The objectives were to increase competency and independence, provide a variety of experiences to assess skills and preferences, and to modify interfering behaviors. A "place-train" model was utilized with all training occurring "on-the-job".

METHOD

Subjects

Autism is a developmental disorder consisting of (1) pervasive lack of responsiveness to other people (2) age of onset before 30 months (3) bizarre responses to the environment including perseveration and resistance to change (4) gross

deficits in language development and (5) absence of delusions, hallucinations and loosening of associations and incoherence as in schizophrenia (DSM-III (3rd ed.), 1980)

Students in the present study were in the Indiana University Developmental Training Center (DTC) vocational training program and all had been independently diagnosed as having autism (DSM-III criteria).All demonstrated such severe behaviors that they had not been able to be served by their local school systems. More than half had been institutionalized and the others had been placed or were about to be placed on homebound instruction.

While the sample size was small (N=5), the model program never accomodated more than 10 students at one time. The advantages of such a small program included optimum staffing ratios, intensive training, and enough flexibility to modify interfering behaviors at the job site. Perhaps the greatest advantage over a case-management model was the continuous on-site monitoring of each student's progress for a period of several months and, in most cases, several years.

IQ ranges based on the Leiter International Performance Scale (1948) were from 36 to 69 with prorated mental ages (PMA) from 4-0 to 8-11. Mean IQ was 47 and mean PMA was 5-9. Chronological ages (CA) ranged from 16-9 to 20-11 with a mean CA of 19-3 at the beginning of their participation in the study.

The communicative abilities of the students varied somewhat. One was non-verbal, two were highly echolalic while the other two seldom initiated verbalizations and when answering were difficult

to understand. Four had sight word recognition and four used some augmentative communication systems. On the Vineland Adaptive Behavior Scale (1984), communication ages ranged from 1-4 to 2-4 expressive (mean= 2-1), and 2-1 to 4-8 receptive (mean= 3-4).

On the Vineland socialization subdomain, play/leisure scores ranged from 2-5 to 3-5 (mean= 2-11), coping scores from 1-2 to 5-0 (mean= 3-5), and interpersonal from 1-11 to 2-6 (mean= 2-3). Behavior scales were all in the highly maladaptive range on the Vineland.

Model

The DTC designed a model for vocational training for students who had received little or no previous vocational training and who exhibited severe behaviors associated with autism. Vocational behaviors to be targeted were derived from the Mithaug and Hagmeier (1978) survey and from factors listed by Wehman (1981) as necessary for success in competitive employment. These included communication, endurance and continuous work, compliance, interpersonal behaviors, and rate and accuracy (Sitlington, Dalrymple, & DeWees, 1986).

Community work sites were obtained with the purpose of providing a variety of work experiences to the students for job training and job exploration. The concrete experience of working at the job would provide an opportunity later to make job choices. Although there was some attempt to match jobs to students, the more prevailing attitude was to offer the job site,

individualize the training, and collect the data to gain information for on-going job training.

To prepare for the community jobs, the students learned appropriate community behavior in all their programming. They participated in recreation activities throughout the community and were active members of the Y-Center. They ate at restaurants and shopped at stores. Participating in the community was something that most of them had learned to do successfully, at least on a part-time basis.

The role of the job coach is one that should not be underestimated when assessing the effectiveness of a community work model. Comprised primarily of program assistants in the DTC Transitional Autism Program, the job coaches fulfilled several roles. The first was to provide on-site training, supervision, and monitoring of behavior for the students. The second was to maintain a continuing liason with the employer thereby keeping a channel open for day to day feedback regarding the performance and expectations of the student/employee. A third function of the job coach was as a representative of the client and indeed the entire DTC in the community. Besides addressing any unusual behavioral incident, the job coach was on hand to answer questions of the public as to the nature of the vocational training program, the activities of the center, and the developmentally disabled population in general. Finally, the job coaches acted as data gatherers in order to evaluate the student's performance in both the short and long term. The job

coaches were trained and monitored by the special education/vocational teacher.

Procedure

The objective of community job exploration for the students with autism was to provide meaningful experiences in integrated environments, to train work behaviors and work skills, and to provide a variety of work experiences so each student would develop a repertoire from which to make choices. When the job site was secured, forms and agreements signed, staff trained, and an initial job analysis complete, the student started at the site. Data were collected on the number of cues required to complete the job. For some jobs these were further defined as physical cues, environmental cues, or verbal cues. The job coach took the data most of the time; but the reliability of the data was checked intermittently by an observer who had been trained in the observation system. The student was also video taped and the job further analyzed. Job coaches ususally did not remain the same throughout the duration of the job exploration since independence and flexibility were considered important rather than creating dependence on one person (Runco, 1986).

A computer tracking system employing dBase III software was developed to provide information as the student progressed in the site. All jobs were short in duration and performed at least twice a week, some as often as five or six times a week.

Sometimes students were placed in two to three jobs at a time but at no time did their total working time exceed twelve to fifteen hours per week (Table I). When the student reached a high degree of independence (fewer than ten cues) over a period of time, the job site was changed. Job sites were also changed if the student showed no progress over a period of time, and sometimes jobs just became unavailable due to seasonal changes or business changes.

Students were not permitted to demonstrate excess behaviors such as screaming, loud talking or flapping at the sites. Well defined behavior plans were in effect for management of interfering behaviors. Other behaviors that interfered with work such as touching hair, smelling or taking food were modified as part of the job training.

RESULTS

The students in the study were successful at more than one job experience (Table I). The number of cues required to do the jobs over time decreased although there were short term cue increases to insure quality control (Figure I). A job coach was kept at each site with the job coach-to-student ratio sometimes increasing as the student improved and needed only minimal supervision. Although it was difficult to determine job preference, jobs that were repetitive rather than long sequenced tasks were easier to teach and allowed the students to gain the greatest degree of independence with the least frustration. The students were taught to work accurately. There was a set standard

required and much of the teaching centered on the correct way to do the job. It was much more difficult to teach the concept of increasing the rate and thereby increasing productivity (Table II). Decreasing interfering motions, staying on task and having the pace set by a co-worker helped, but generally the workers with autism were not conscious of passage of time and preferred methodical, careful routines to speed. In Carole's case (Table II), productivity increases were far from linear, but substantial nonetheless (a 16% increase during late August and September over the July-August baseline).

The jobs in the study were of short duration each day and could typically be completed in an hour or less. The jobs were performed from 1 to 5 times per week over a period of 1 to 9 months. Usually the first job was of the longest duration unless it was not a good match for the student or the site was discontinued. Generally, subsequent jobs were easier to learn and the appropriate skills and behaviors generalized to the new placements. Sometimes having to modify a learned sequence in a new environment was more difficult than learning a brand new skill sequence, such as where to place salt and pepper shakers after wiping the table. The preferred schedule for learning was to perform the job at least 4 to 5 times per week. Once a degree of competence in work behaviors and skills was obtained then the frequency, even in a new job site, could be less and still show progress.

Targeted behaviors were tracked across all environments. Seldom did a targeted behavior occur at the community job sites. However, once in a while a student was not taken to work because of behaviors that occurred at school. Students looked forward to work and did not like to miss. Other behaviors that interfered with productivity or job performance were modified through changes in the environment or the use of teaching procedures. These included wearing gloves to modify touching hair and using two hands to bus tables.

DISCUSSION

Students with autism who exhibit severe behaviors that may interfere with job placement are usually not considered candidates for placement in job training in the community until their behavior is appropriate in more restricted settings. The results of this study suggest that students should not be placed in a program that requires competency in a restricted placement before moving to community experiences. These students will never reach the community training level with a hierarchical approach. They respond well to meaningful jobs in integrated settings and can successfully learn the job at the site. Research needs to be conducted to determine whether it is more effective to concentrate the training, to learn several part time jobs simultaneously, or to focus on one particular cluster of jobs after initial job exploration. Training job coaches to teach

the student worker to be as independent as possible, perform the job up to criteria, and to fade cues as quickly as possible to prevent dependence are all areas worthy of further study. The student workers in the study did value their time at the work sites. They received some small monetary reward, but for most of them it appeared that doing something that others clearly valued, and going "off to work" may have been the greatest motivators.

One limitation of this project was attempting to conduct a data based study within the confines of an on-going program. The students' programs were not changed for the study. The data reports what actually happened with no extra resources except an occasional data recorder. Without always having a data recorder and without repeated interreliability checks there may be some error. However, because of the length of time collection was made, changing collectors, and periodic reliability checks, we feel that it represents an accurate picture of what happened with these five students.

The participating students were severely handicapped. They also lacked previous vocational training. As people with autism move into community placements from institutions they too will need planned vocational training. The authors advocate that the adult with autism have the opportunity to participate in a community job exploration program to permit the growth of vocational behaviors and skills and the chance to make choices concerning jobs based on real experiences.

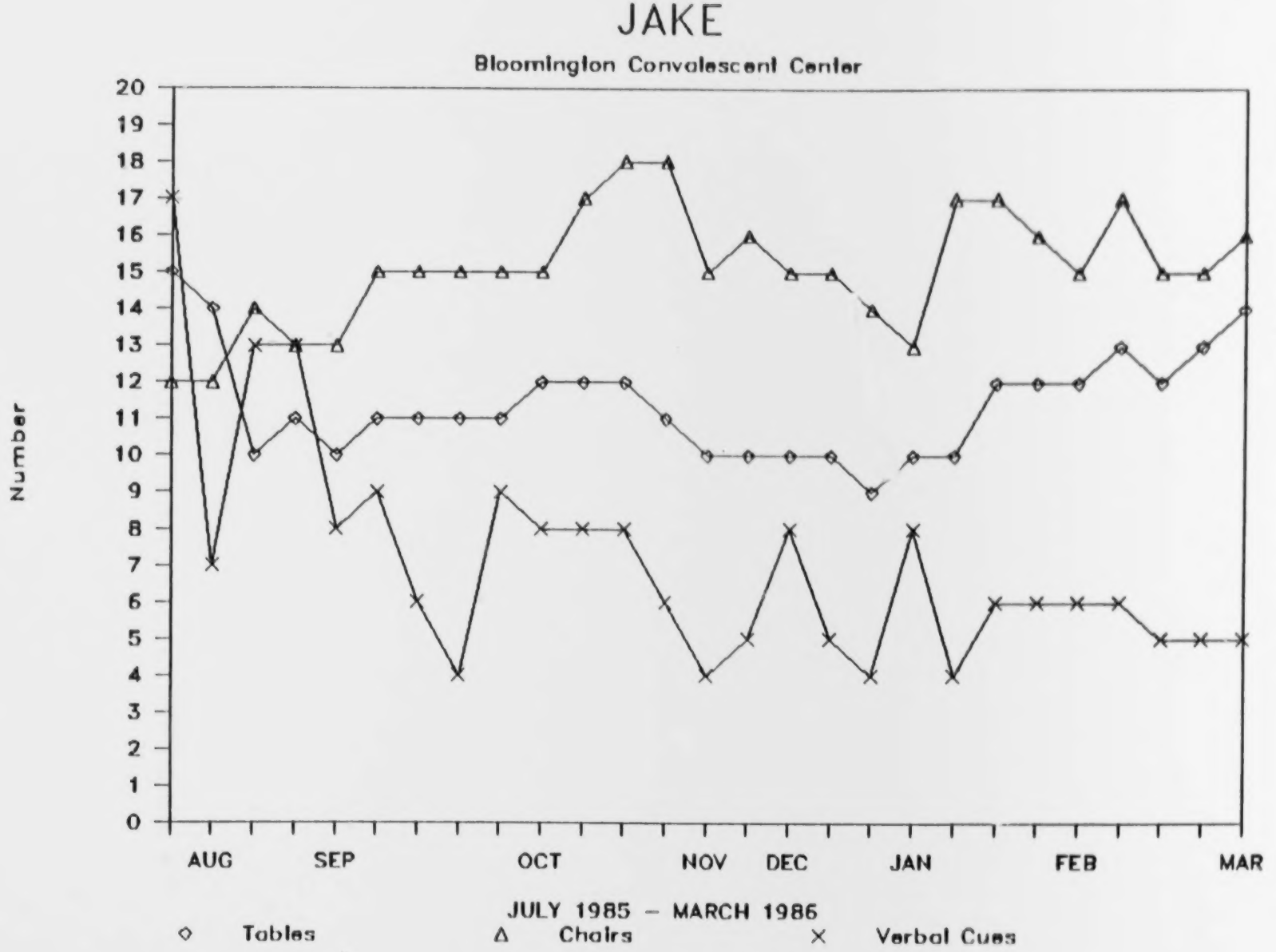
We hope that the present study has helped to illuminate the need for students with autism to learn vocational skills and behaviors as they progress through the school system so they are better equipped to deal with the world of work upon graduation. Supported work programs must be designed to meet the long term needs of workers with severe handicaps. Recent behavioral technologies such as self monitoring techniques for these workers should also be explored in community sites.

The authors gratefully acknowledge the work of Dr. Patricia L. Sitlington, Ph.D., and Anthony DeWees, M.S., who helped start the project; Joy Lucas, who continued it; and Richie Graham, Ann Rebeck, and Brian Szurgot who helped compile data.

STUDENT	JOB	DATES	DURATION	FREQUENCY PER WEEK	TOTAL# TIMES	HOURS EACH	TOTAL HOURS
JAKE	BCC(1)	9/20/84-12/20/85	(3mth.) (.25br)	5	60	.75	45.0
	BCC(2)	7/29/85-4/1/86	(7mth.)(1.25bt.)(5.75T)	5	115	.75	86.25
	Paper Route (weekend)	1/1/86-6/30/86	(4.5mth.)(4wk.br)(3.5T)	2	28	.50	14.0
	Library cafe	2/18/86-6/9/86	(4mth.)(.50br)(4T)	4	24	.50	12.0
	Dishwashing Apt. Cleaning	12/1/85-5/9/86	(5mth)(.50br)	1	12	.75	9.0
RAYMOND	Ramada Inn	3/26/85-5/30/85	(2mth)	5	40	1.0	40.0
	Paper Route	10/1/85-5/22/86	(7.75mth.)(1.25br.) (6.50T)	5	130	1.0	130.0 (miss or varied)
CAROLE	BCC	9/9/84-7/26/86	(10.5mth.)(1.5mbr)(9T)	5	180	.75	135.0
	Whitestone	8/5/85-9/20/86	(1.5mth.)(.25mbr) (1.25T)	5	25	2.0	50.0
	Paper Route	9/15/85-12/15/85	(3mth.T)	5	60	.50	30.0
	Dishwashing	10/17/85-12/19/85	(2mth.T)	2	19	.75	14.25
FRANK	BCC	10/30/84-7/26/85	(9mth.)(1.5mbr)(7.5T)	5	150	.75	112.0
	Ramada Inn	9/9/85-5/21/86	(8.25mth.)(1.25mbr)	5	140	1.0	140.0
	Apt. Cleaning	10/30/85-5/30/86	(7mth.)(1mbr)(3T)	5	120	1.0	120.0
	Dishwashing	2/1/86-5/9/86	(3.25mth.)(.25mbr)(3T)	5	46	1.0	46.0
PAUL	BCC	1/10/84-5/10/85	(4mth.)(.25br)	3	57	1.0	57.0
	Whitestone	8/18/85-9/20/85	(1mth.T)	5	20	1.0	20.0
	Dishwashing	10/17/85-5/9/86	(6.75mth.)(.75mbr)(6T)	2	52	.75	39.0
	Paper Route (weekends)	1/1/86-6/30/86	(4mth.)(.50br)(3.5T)	2	28	.25	7.0
	Coffee Routine	11/1/83-Present		5			

Date	% On-task			Rate Per Hour	Accuracy
July 26	45%	---	80%	43.8	---
July 29	100%	---	---	48.3	---
Aug 5-16	73%	87%	80%	49.8	84%
Aug 19	90%	90%	75%	49.0	78.3%
Aug 21	0%	80%	100%	63.0	93.3%
Aug 22	95%	60%	85%	62.0	100%
Aug 23	80%	85%	80%	55.0	96.3%
Sept 9	50%	50%	50%	54.0	100%
Sept 11	85%	75%	60%	51.0	100%
Sept 12	85%	75%	85%	58.0	100%
Sept 13	80%	50%	65%	47.0	96.3%
Sept 19	---	---	---	67.0	100%

TABLE II - CAROLE: PERFORMANCE AT SANITARY NAPKIN ASSEMBLY FACTORY


JAKE
Bloomington Convalescent Center
Number
20
19
18
17
16
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14
13
12
11
10
9
8
7
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5
4
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1
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AUG
SEP
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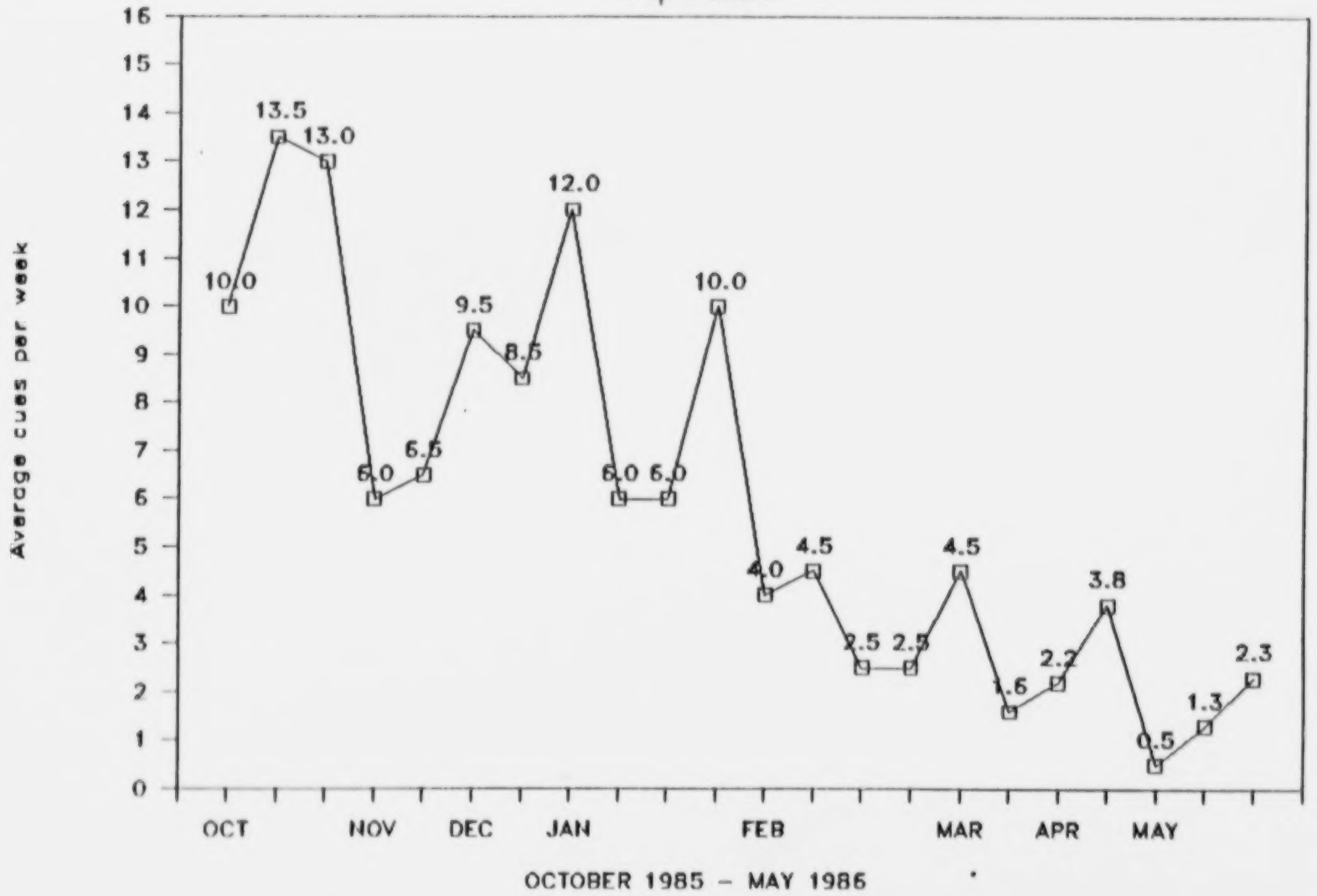
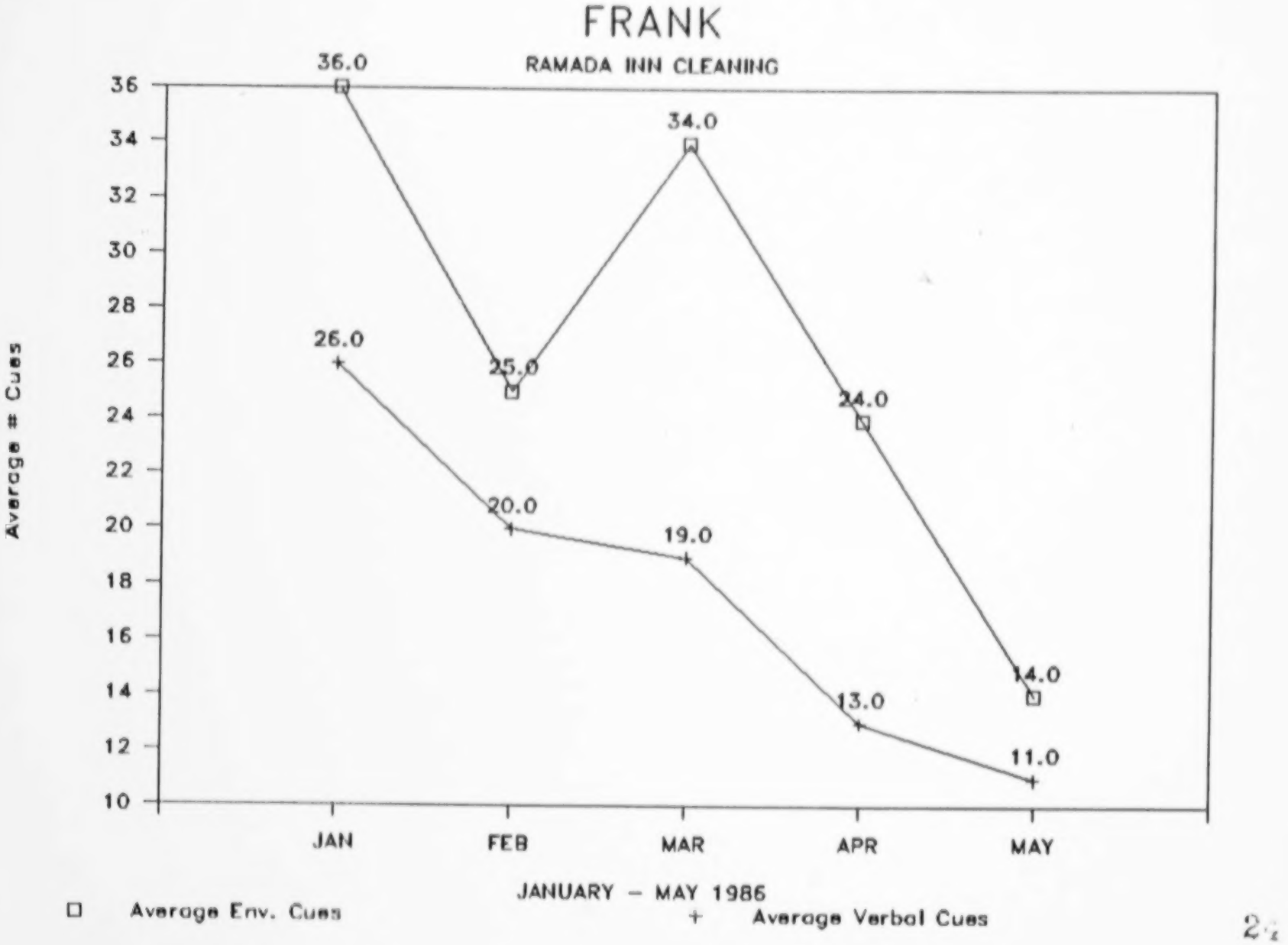
JAN
FEB
MAR
JULY 1985 – MARCH 1986
◇ Tables
△ Chairs
× Verbal Cues

RAYMOND

Paper Route



OCTOBER 1985 – MAY 1986


FRANK
RAMADA INN CLEANING
Average # Cues
36
34
32
30
28
26
24
22
20
18
16
14
12
10
36.0
34.0
25.0
24.0
14.0
26.0
20.0
19.0
13.0
11.0
JAN
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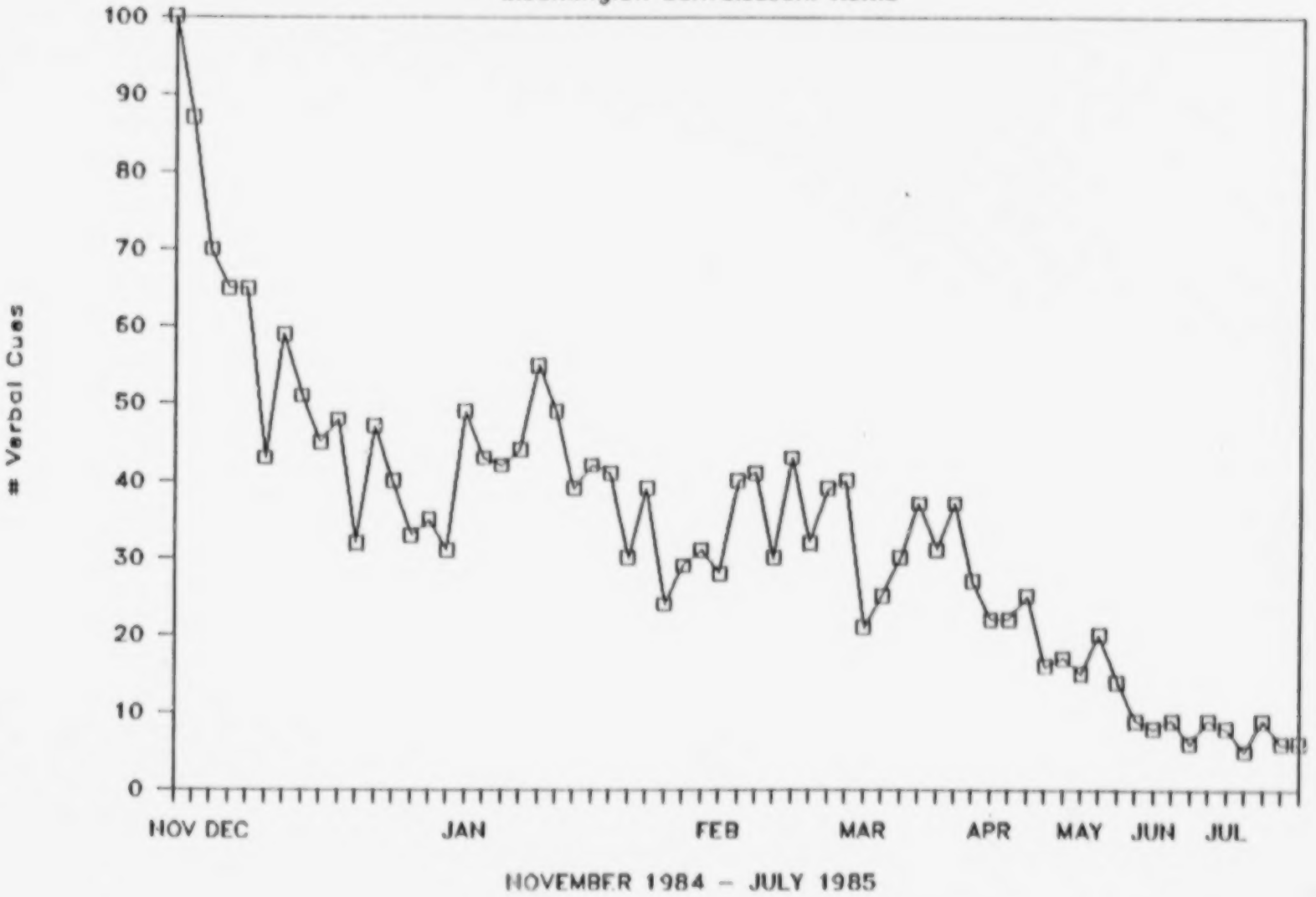
MAR
APR
MAY
JANUARY – MAY 1986
□ Average Env. Cues
+ Average Verbal Cues

FRANK

Bloomington Convalescent Home



NOVEMBER 1984 – JULY 1985

Agran, M., & Martin, J.E. (1987). Applying a technology of self-control in community environments for individuals who are mentally retarded. In M. Hersen, R.M. Eisler, & P. M. Miller (Eds.), Progress in behavior modification, (Vol. 21, pp. 108-151). Newbury Park, Ca.: Sage Publications.

American Psychiatric Association. (1980). Diagnostic and statistical manual of mental disorders (3rd ed.). Washington, DC: American Psychological Association.

Bellamy, G.T. (1985). Transition progress. OSERS News in Print, 1(1), 11.

Brickey, M., & Campbell, K. (1981). Fast food employment for moderately and mildly retarded adults. Mental Retardation, 19, 113-116.

Brown, L., Shiraga, B., York, J., Kessler, K., Strohm, B., Rogan, P., Sweet, M., Zanella, K., VanDeventer, P., & Loomis, R. (1984). Integrated work opportunities for adults with severe handicaps: The extended training option. Journal of the Association for Persons with Severe Handicaps, 9, 262-269.

DeMyer, M.K., Hingtgen, J.N., & Jackson, R.K. (1981). Infantile autism reviewed: A decade of research. Schizophrenia Bulletin, 7, 388-451.

Elder, J.K.(1985, Spring).Transition from school to employment: A new frontier in the work force. Rehabilitation/WORLD, 8-9.

Juhrs, P.D. (1984).Lifting barriers to provision of VR services to persons disabled by autism and other severe handicapping conditions. Rockville, MD: Community Services for Autistic Adults and Children.

Leiter, R.G. (1948). Leiter International Performance Scale, Chicago: Stoelting Publishers.

Lovaas, O.I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. Journal of Consulting and Clinical Psychology, 55, 3-9.

Lovaas, O.I., Koegel, R.L., Simmons, J.Q., & Long, J. (1973). Some generalization and follow-up measures on autistic children in behavior therapy. Journal of Applied Behavior Analysis, 6, 131-166.

McDonnell, J.J., Wilcox, B., Boles, S.M., & Bellamy, G.T. (1985). Transition issues facing youth with severe disabilities: Parents' perspective. Journal of the Association for Persons with Severe Handicaps, 10, 61-65.

Mithaug, D.E., & Hagmeier, L.D. (1978). The development of procedures to assess vocational competencies of severely handicapped young adults. AAESPH Review, 3, 94-115.

Runco, M.A., Charlop, M.H., & Schreibman, L. (1986). The occurrence of autistic children's self-stimulation as a function of familiar versus unfamiliar stimulus condidtions. Journal of Autism and Developmental Disorders, 16, 31-44.

Rusch, J.R., & Mithaug, D.E. (1980). Vocational training for mentally retarded adults: A behavior analytic approach. Champaign, Il.: Research Press.

Shafer, M.S. (1987). Competitive employment for workers with mental retardation. In M. Hersen, R.M. Eisler., & P.M. Miller (Eds.), Progress in behavior modification, (Vol. 21, pp. 86-107). Newbury Park, Ca.: Sage Publications.

Sitlington, P.L., Dalrymple, N.J., & DeWees, A.W. (1986).

Vocational programming for students with autism. Bloomington, In: Indiana University Developmental Training Center.

Smith, M.D., & Coleman, D. (1984). Managing the behavior of adults with autism in the job setting. Rockville, Md.: Community Services for Autistic Adults and Children.

Sparrow, S.S., Balla, D.A., & Cicchetti, D.V. (1984). Vineland Adaptive Behavior Scales. Circle Pines, Mn.: American Guidance Service.

Wehman, P. (1981). Competitive employment: New horizons for the severely disabled. Baltimore: Paul Brookes, Inc.

Wehman, P., Hill, M., Goodall, P., Cleveland, P., Brooke, V., Pentecost, J. (1982). Job placement and follow-up of moderately and severely handicapped indidviduals after 3 years. Journal of the Association for Persons with Severe Handicaps, 7, 5-16.

Wehman, P., Kregel, J., & Barcus, J.M. (1985). From school to work: A vocational transition model for handicapped students. Exceptional Children, 52, 25-37.

Will, M. (1985, Spring). Transistion: Linking disabled youth to a productive future. OSERS News in Print, 1, 1-2.